United States Department of Agriculture
Forest Service
R3 Regional Office
333 Broadway SE
Albuquerque, NM 87102
FAX (505) 842-3800
V/TTY (505) 842-3292

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Rachel Wood
Forester
Santa Clara Pueblo Forestry
P.O. Box 580
Espanola, NM 87532

Dear Rachel:

On March 21, I met with you, Bruce Bauer, and Ben Chavarria to examine stand conditions, bark beetles, and other insect and disease activity in Santa Clara Canyon. You had requested our assistance primarily because of concerns about Douglas-fir beetle in this area. We conducted a drive-through examination of the 10+ mile-long recreation area along Santa Clara Creek, making several stops at points of interest.

Within the canyon bottom, the most common insect and disease activity/damage included western spruce budworm defoliation (from last year), broom rusts (on both white fir and spruce), and Douglas-fir dwarf mistletoe. Of additional interest were stem cankers on Engelmann spruce (cause unknown) and what appeared to be a white pine blister rust canker. The latter would be the first report of this disease in northern New Mexico. We would like to revisit the site in May or June to confirm.

Relatively little bark beetle activity was observed in the canyon bottom. Most of the tree mortality we saw was on the steep north slope of the Canyon, within the perimeter of the Cerro Grande wildfire. Although most of these dead trees--which included white fir, Douglas fir, and ponderosa pine--appeared to have been killed directly by the fire, some had died more recently, probably from a combination of factors including residual fire damage (char), drought, and bark beetle attack.

Beyond the fire perimeter, an extensive pocket of recent mortality was visible on the slope above Pond #3. Viewed from the canyon bottom, this mortality appeared to be due to Douglas-fir beetle, which we confirmed by hiking into the area. Here, most of the larger (> 24" dbh) Douglas-firs (which had been the dominant tree in this stand) had been attacked and killed in 2004 and 2005. Most of the affected trees were probably well over 200 years old; the younger Douglas-firs we saw were unaffected. Spruces (both blue and Engelmann) were the most common understory trees in this area.

A small pocket of spruce beetle activity was observed along the road near Site 26. Here, two mature blue spruce had been recently attacked (as evidenced by pitch tubes) and two other large spruce-- apparently considered hazard trees-- had been recently felled and left on site. To prevent additional build-up of spruce beetles here, we discussed felling the infested trees and hauling them, along with the boles of the previously cut trees, off site. Blue spruce is the

predominant tree in the upper portions of the canyon, and these stands (which extend for several miles along the canyon bottom) could potentially harbor a significant spruce beetle outbreak, given their age and high densities.

Recommendations for Douglas-fir beetle

We saw little or no Douglas-fir beetle activity within the canyon bottom. Although these insects could potentially spread from the slopes into the canyon bottom, the trees in the canyon bottom have better growing conditions and are probably under less stress--and therefore less likely to be attacked--than those growing on the slopes. Nevertheless, it is difficult to predict how long the current outbreak will continue, or if the trees in the canyon bottom will be affected. Douglas-fir occurs throughout the length (10+ miles) of the canyon, but is a minor stand component in much of this area. The greatest concentration of Douglas-fir appeared to occur in the vicinity of Pond #2, between the Ranger Station and the Fire Station. Douglas-fir beetle activity usually occurs in areas where Douglas-fir is a major stand component.

As we discussed, MCH anti-aggregation pheromone (bubble caps) can be used to provide some protection against Douglas-fir beetle attack in localized, high-value areas. If the Tribe is interested in using the bubble caps, it appeared that the area between the Ranger Station and Fire Station would be the most suitable area to treat. Bubble caps are stapled to trees, usually on a 40 x 40 foot grid (about 30/acre), prior to beetle flight (probably early to mid-May in this area). This is expected to provide protection for one season. To monitor treatment success, a portion of this area might be left untreated and used for comparison.

As a longer-term management strategy, consideration might be given to additional thinning in Santa Clara Canyon to reduce competition and improve growth and vigor, making trees less susceptible to bark beetle attack.

Please contact us for further assistance.

Sincerely,

/s/ David A. Conklin
DAVID A. CONKLIN
Forest Pathologist, Forest Health,
New Mexico Zone

cc: Debra Allen-Reid